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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Jurgen Beyer

BEYER1

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EXAMINER

KHAN, MEHMOOD B

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/551,896	Applicant(s) BEYER ET AL.	
	Examiner MEHMOOD B. KHAN	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 15-17 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 15-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to all of the claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the phrase "i.e., without traffic load" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Byrne et al. (US 6,549,781 herein O'Byrne) in view of Plehn (US 5,839,074) in view of Li et al. (US 2002/0086679 herein Li).

Claim 1, O'Byrne acquiring measurement data with a measuring instrument within specified area elements of a defined area (**Col 4: 33-37, where O'Byrne discloses signal strength at a given location**), O'Byrne discloses wherein, in each area element, the measurement data including the received signal power of at least one downlink pilot channel of multiple base stations that can be received in this area element (**Col 4: 33-45, where O'Byrne discloses pilot strength and interference measurements**), O'Byrne discloses the total background noise power in the analyzed frequency (**Fig. 3: 305-330, where O'Byrne discloses a process for analyzing pilot strengths to interference ratios**), O'Byrne discloses wherein the measurement data includes a received pilot channel power E_c , a total background noise power I_o present in a given frequency band of 5 MHz, and a ratio E_c/I_o , which thus define the measured power of the pilot channel in relation to total interference signal power (**Fig. 6, where O'Byrne discloses the ratio of E_c/I_o as well as E_c and I_o separately, O'Byrne inherently discloses 5 MHz band, since that is bandwidth used in WCDMA which is a type of CDMA system**); O'Byrne discloses detecting the scrambling code SC of each base station with the measuring instrument (**Abstract, where O'Byrne discloses pilots**); O'Byrne discloses allocating the acquired measurement data to a base station via a detected scrambling code SC assigned to which base station (**Fig. 6: where O'Byrne discloses ratios for sites**); O'Byrne discloses identifying one of the base stations as a Best Server, based on the acquired measurement data (**Col 4: 33-35, where O'Byrne discloses strongest server**); O'Byrne characterized by preparing a list based on the acquired measurement data (**Fig. 3: 335, where O'Byrne discloses generation of results; Fig. 6, where O'Byrne discloses showing results**), wherein for the preparation of the list for each area element, base stations having a power lying

Art Unit: 2617

in a 10 dB window below the power of the Best Server are registered as interferers, and base stations that are necessary for a Soft Handover, SHO, are not rated as interferers **(Col 7: 17-38, where O'Byrne discloses sorting base stations based on pilot strengths and whether stations can be used for handoff, and also shows whether pilots are interferers or are contributors to the signal; Col 7: 57-61, Fig. 6, where O'Byrne discloses a definable threshold of -30 dB)**, and wherein the interference matrix reflects a statement regarding the interference relationship of each base station with other base stations.

O'Byrne does not explicitly disclose said step of acquiring being carried out while the subnetwork is idle, i.e., without traffic load, interference matrix and wherein the interference matrix reflects a statement regarding the interference relationship of each base station with other base stations.

In an analogous art, Plehn discloses interference matrix and wherein the interference matrix reflects a statement regarding the interference relationship of each base station with other base stations **(Col 5: 27-51, where Plehn discloses interference caused by one base station to another; Fig. 1, an interference matrix)**. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Byrne to generate an interference matrix as taught by Plehn so as to provide for a uniform utilization of the available spectrum **(Col 2: 29-31)**.

O'Byrne in view of Plehn does not explicitly disclose said step of acquiring being carried out while the subnetwork is idle, i.e., without traffic load.

In an analogous art, Li discloses said step of acquiring being carried out while the subnetwork is idle, i.e., without traffic load **(0026, where Li discloses that the**

Art Unit: 2617

measuring traffic loads when cells can be idle). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Byrne in view of Plehn to include measuring when the cell is idle as taught by Li so as to activate or deactivate cells for use **(0027)**.

Claim 2, O'Byrne discloses that for the analysis of the interference situation and radio coverage, a statement regarding the radio coverage in the downlink is determined on the basis of the acquired measurement data under specification of an assumed traffic load of the network **(Col 11, where O'Byrne discloses interference calculation and traffic load)**.

O'Byrne does not explicitly disclose a statement regarding the radio coverage in the uplink is determined on the basis of the acquired measurement data under specification of an assumed traffic load of the network.

In an analogous art, Plehn discloses a statement regarding the radio coverage in the uplink is determined on the basis of the acquired measurement data under specification of an assumed traffic load of the network **(Col 3: 7-20, where Plehn discloses interference and load and rate of utilization)**. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Byrne to generate an interference data as taught by Plehn so as to provide for a uniform utilization of the available spectrum **(Col 2: 29-31)**. Claim 16, O'Byrne discloses performing adjustments at at least one of the base stations on the basis of data provided **(Col 4: 25-33)**.

O'Byrne does not explicitly disclose on the basis of data provided in the interference matrix.

In an analogous art, Plehn discloses on the basis of data provided in the interference matrix **(Col 7: 4-9, where Plehn discloses allocation of frequencies based on the interference probabilities)**. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Byrne to generate an interference matrix as taught by Plehn so as to provide for a uniform utilization of the available spectrum **(Col 2: 29-31)**.

Claim 17, as analyzed with respect to the limitations as discussed in claim 16.

Claims 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Byrne in view Plehn in view of Li in view of Laiho et al. ("Radio Network Planning Process and Methods for WCDMA" herein Laiho).

Claim 4, as analyzed with respect to the limitations as discussed in claim 2.

O'Byrne in view of Plehn in view of Li does not explicitly disclose the ratio of the received signal power from the analyzed cell ($I_{\text{sub.eig}}$) and the received signal powers from all other cells ($I_{\text{sub.fr}}$).

In an analogous art, Laiho discloses the ratio of the received signal power from the analyzed cell ($I_{\text{sub.eig}}$) and the received signal powers from all other cells ($I_{\text{sub.fr}}$) **(Fig. 3, where Laiho discloses $I = I_{\text{oth}} / I_{\text{own}}$)**. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Byrne in view of Plehn in view of Li to analyze interference of cells as taught by Laiho so as to assign base station transmit powers **(Pg 6: section C2)**.

Claim 5, as analyzed with respect to the limitations as discussed in claim 4.

Claim 6, O'Byrne in view of Plehn in view of Li does not explicitly disclose that the radio coverage is determined separately for each available service.

In an analogous art, Laiho discloses the radio coverage is determined separately for each available service (**Pg 5: III: A (Introduction to static radio network planning simulator), where Laiho discloses different terminal speeds**). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Byrne in view of Plehn in view of Li to assign terminal speeds as taught by Laiho so as to classify mobile with Eb/No requirements (**Pg 5: III: A**).

Claim 7, O'Byrne in view of Plehn in view of Li does not explicitly disclose that a service-specific effective data rate (R) is used as a criterion for determining the radio coverage.

In an analogous art, Laiho discloses that a service-specific effective data rate (R) is used as a criterion for determining the radio coverage (**Equation 18**). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Byrne in view of Plehn in view of Li to assign terminal speeds as taught by Laiho so as to classify mobile with Eb/No requirements (**Pg 5: III: A**).

Claim 8, O'Byrne in view of Plehn in view of Li does not explicitly disclose that a service-specific desired value for the signal-to-noise ratio (E_{b/N_o}) is used as a criterion for determining the ratio coverage.

In an analogous art, Laiho discloses that a service-specific desired value for the signal-to-noise ratio (E_{b/N_o}) is used as a criterion for determining the ratio [sic] coverage (**Pg 6: C2, where Laiho discloses MS specific Eb/No**). Therefore,

Art Unit: 2617

it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Byrne in view of Plehn in view of Li to assign terminal speeds as taught by Laiho so as to classify mobile with Eb/No requirements (**Pg 5: III: A**).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MEHMOOD B. KHAN whose telephone number is (571)272-9277. The examiner can normally be reached on Monday - Friday 8:30 am - 5:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on 571-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from

Art Unit: 2617

either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. B. K./

Examiner, Art Unit 2617

/Lester Kincaid/

Supervisory Patent Examiner, Art Unit 2617